



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/827,439

04/20/2004

Noboru Tokuyasu

056208.53996US

2735

23911

7590

05/10/2006

CROWELL & MORING LLP
INTELLECTUAL PROPERTY GROUP
P.O. BOX 14300
WASHINGTON, DC 20044-4300

EXAMINER

MILLER, CARL STUART

ART UNIT

PAPER NUMBER

3747

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Supplemental Notice of Allowability

Application No.

10/827,439

Applicant(s)

TOKUYASU ET AL.

Examiner

Carl S. Miller

Art Unit

3747

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to IDS of 7/15/05.
2. ☒ The allowed claim(s) is/are 3,4,6,9,12,13 and 16.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/15/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 4/25/06
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Carl S. Miller
Primary Examiner

Authorization for this examiner's amendment was given in a telephone interview with Mr. James McKeown on April 28, 2006.

The following changes in the Claims were approved:

In Claim 3, line 11, "motor generator" has been deleted and - - motor/generator - - has been inserted before "which", and in line 12, - - a - - has been inserted before "generator", the phrase "being made to drive by the" has been deleted and the phrase - - driven by a - - has been inserted before "cam",

In Claim 16, line 1, "15 has been deleted and - - 12 - - has been inserted after "claim",

In Claim 9, line 5, the phrase "stat that" has been deleted and the phrase - - start when - - has been inserted after "cold",

Claims 6 and 12 have been amended as follows:

6. A fuel supply system for a direct fuel injection type internal combustion engine comprising:

a high-pressure fuel pump,

injectors for injecting directly fuel pressurized by said high-pressure fuel pump into respective combustion chambers of said engine,

Art Unit: 3747

an auxiliary power unit configured as an electromotor connected with said high-pressure fuel pump, wherein at a time of starting of said engine, driving of said high-pressure fuel pump or an assist to drive torque for said high-pressure fuel pump is performed by said auxiliary power unit, wherein a clutch is provided between said high-pressure fuel pump and said auxiliary power unit to connect and disconnect them, and

means for recognizing completion of starting of said engine, wherein, at a time of starting of said engine, said auxiliary power unit and said high-pressure fuel pump are connected with each other by said clutch to drive said high-pressure fuel pump by said auxiliary power unit until said completion of starting of said engine is recognized by said recognition means, and when completion of said starting is recognized, said auxiliary power unit and said high-pressure fuel pump are disconnected by said clutch to stop the operation of said auxiliary power unit, wherein said recognition means recognizes starting of said engine based on an engine coolant water temperature, an engine oil temperature or a temperature of a catalyst in an exhaust system of said engine, and when said engine is started up at a temperature higher than the temperature for recognizing starting of said engine, said high-pressure fuel pump is driven by a camshaft from immediately after starting of said engine without using said auxiliary power unit.

12. A fuel supply system for a direct fuel injection type internal combustion engine comprising:

a high-pressure fuel pump,

injectors for injecting directly fuel pressurized by said high-pressure fuel pump into respective combustion chambers of said engine,

an auxiliary power unit connected with said high-pressure fuel pump, wherein at a time of starting of said engine, driving of said high-pressure fuel pump or an assist to drive torque for said high-pressure fuel pump is performed by said auxiliary power unit,

and a sensor for detecting an action to be performed by a driver before said engine is started up, wherein based on a detection signal from said sensor, said high-pressure fuel pump is driven by said auxiliary power means prior to starting of said engine, wherein when a starter switch of said internal combustion engine is not turned on even after a predetermined time has elapsed from input of said detection signal from said sensor for detecting said action by said driver, said driving of said high-pressure fuel pump by said auxiliary power unit is stopped, and wherein when said starter switch is turned on after a predetermined time has elapsed from said input of said detection signal from said sensor for detecting said action by said driver, said high-pressure fuel pump is driven by a camshaft, and said high-pressure fuel pump is also driven by said auxiliary power unit.

and


Claims 5, 7, 8 14 and 15 have been cancelled.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl S. Miller whose telephone number is 571-272-4849.

The examiner can normally be reached on MTWTHF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Cronin, can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Carl S. Miller
Primary Examiner